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☐ 1: [Q62751](#). Reports Iron-responsive e...[gi:60392492]

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**LOCUS** Q62751 963 aa linear ROD 01-NOV-1997  
**DEFINITION** Iron-responsive element-binding protein 2 (IRE-BP 2) (Iron regulatory protein 2) (IRP2).  
**ACCESSION** Q62751  
**VERSION** Q62751 GI:60392492  
**DBSOURCE** swissprot: locus IREB2\_RAT, accession [Q62751](#);  
class: standard.  
extra accessions: Q66HL4, xrefs: [U20181.1](#), [AAA79927.1](#), [BC081798.1](#), [AAH81798.1](#)  
xrefs (non-sequence databases): UniGene:Rn.10132, Ensembl:ENSRNOG00000013271, RGD:621539, LinkHub:Q62751, InterPro:IPR012084, InterPro:IPR006249, InterPro:IPR000573, InterPro:IPR001030, Pfam:PF00330, Pfam:PF00694, PIRSF:PIRSF001417, PRINTS:PR00415, ProDom:PD000511, TIGRFAMs:TIGR01341, PROSITE:PS00450, PROSITE:PS01244  
**KEYWORDS** 4Fe-4S; Iron; Iron-sulfur; Metal-binding; RNA-binding.  
**SOURCE** Rattus norvegicus (Norway rat)  
**ORGANISM** Rattus norvegicus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Rattus.  
**REFERENCE** 1 (residues 1 to 963)  
**AUTHORS** Guo, B., Brown, F.M., Phillips, J.D., Yu, Y. and Leibold, E.A.  
**TITLE** Characterization and expression of iron regulatory protein 2 (IRP2). Presence of multiple IRP2 transcripts regulated by intracellular iron levels  
**JOURNAL** J. Biol. Chem. 270 (28), 16529-16535 (1995)  
**PUBMED** [7622457](#)  
**REMARK** NUCLEOTIDE SEQUENCE [MRNA].  
STRAIN=Sprague-Dawley; TISSUE=Liver  
**REFERENCE** 2 (residues 1 to 963)  
**AUTHORS** .  
**CONSRTM** NIH - Mammalian Gene Collection (MGC) project  
**TITLE** Direct Submission  
**JOURNAL** Submitted (??-SEP-2004)  
**REMARK** NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].  
TISSUE=Testis  
**COMMENT** On Mar 1, 2005 this sequence version replaced gi:2492646.  
[FUNCTION] Binds to iron-responsive elements (IRES), which are stem-loop structures found in the 5'UTR of ferritin, and delta aminolevulinic acid synthase mRNAs, and in the 3'UTR of transferrin receptor mRNA. Binding to the IRE element in ferritin results in

the repression of its mRNA translation. Binding of the protein to the transferrin receptor mRNA inhibits the degradation of this otherwise rapidly degraded mRNA.

[COFACTOR] Binds 1 4Fe-4S cluster per subunit (By similarity).

[SUBCELLULAR LOCATION] Cytoplasm.

[TISSUE SPECIFICITY] Ubiquitously expressed in rat tissues, the highest amounts present in skeletal muscle and heart.

[SIMILARITY] Belongs to the aconitase/IPM isomerase family.

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FEATURES	Location/Qualifiers
<u>source</u>	1..963 /organism="Rattus norvegicus" /db_xref="taxon:10116"
<u>gene</u>	1..963 /gene="Ireb2" /note="synonym: Irp2"
<u>Protein</u>	1..963 /gene="Ireb2" /product="Iron-responsive element-binding protein 2"
<u>Region</u>	1..963 /gene="Ireb2" /region_name="Mature chain" /experiment="experimental evidence, no additional details recorded" /note="Iron-responsive element-binding protein 2." /FTId=PRO_0000076686."
<u>Region</u>	85..>145 /gene="Ireb2" /region_name="Aconitase A catalytic domain" /note="AcnA_IRP" /db_xref="CDD:30082"
<u>Region</u>	107 /gene="Ireb2" /region_name="Conflict" /experiment="experimental evidence, no additional details recorded" /note="V -> M (in Ref. 1)."
<u>Region</u>	212..641 /gene="Ireb2" /region_name="Aconitase A catalytic domain" /note="AcnA_IRP" /db_xref="CDD:30082"
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<u>Site</u>	578 /gene="Ireb2" /site_type="metal-binding" /inference="non-experimental evidence, no additional details recorded" /note="Iron-sulfur (4Fe-4S) (By similarity)."
<u>Site</u>	581

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Region 602

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Region 745..913

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Region 751..905

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/db_xref="CDD:29527"
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Region 765

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ORIGIN

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121 cptdltvdhs lqidfskcai qnapnpgggd lqkagklspk kvqpkklpcr gqttcrsgcd
181 sgelsrnsgr fssqientpv lcpfhlpvvp epetvlknqe vefgrnrerl qffkwssgaf
241 knvavippgt gmahqvnleh lsrvvfeead llfpdsvigt dshitmvgvl gilgwvgggi
301 eteavmlglp vtltlpevvg celtgssnaf vtsidivlgi tkhlrvqgva gkfveffgsg
361 vsqlsivdrt tianmcpeyg ailsffpvdn vtlrhlehtg fdktklesme eylkavklfr
421 ndenssepey sqviqinlns ivasvsgpkr pqdrvavtdm ksdfqaclne kvgfkqfqa
481 aekqsdtvsv rydgseykls hgsuviaavi sctnnncpsv mlaagllakk avetglrvkp
541 yirtslspgs gmvthylsss gvlpylsklg feivgygcst cvgntaplse ailnavkqgd
601 lvtcgvlsn knfegrlcdc vranylaspp lvvayaiagt vnidfqtelp gtdstgkniy
661 lhdiwpsree vqhieehvi lsmfkalkek vemgnkrwns ldapdsvlfp wdvkstyirc
721 psffdkltke paasqpiana hvlllylgdsv ttdhispags iarssaaaky ltnrgltpre
781 fnsygarrgn davmtrgtfa niklfnkfig kpapktihfp sgqtdlvfea aelyqkegip
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961 kfl
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Mar 14 2006 11:51:02